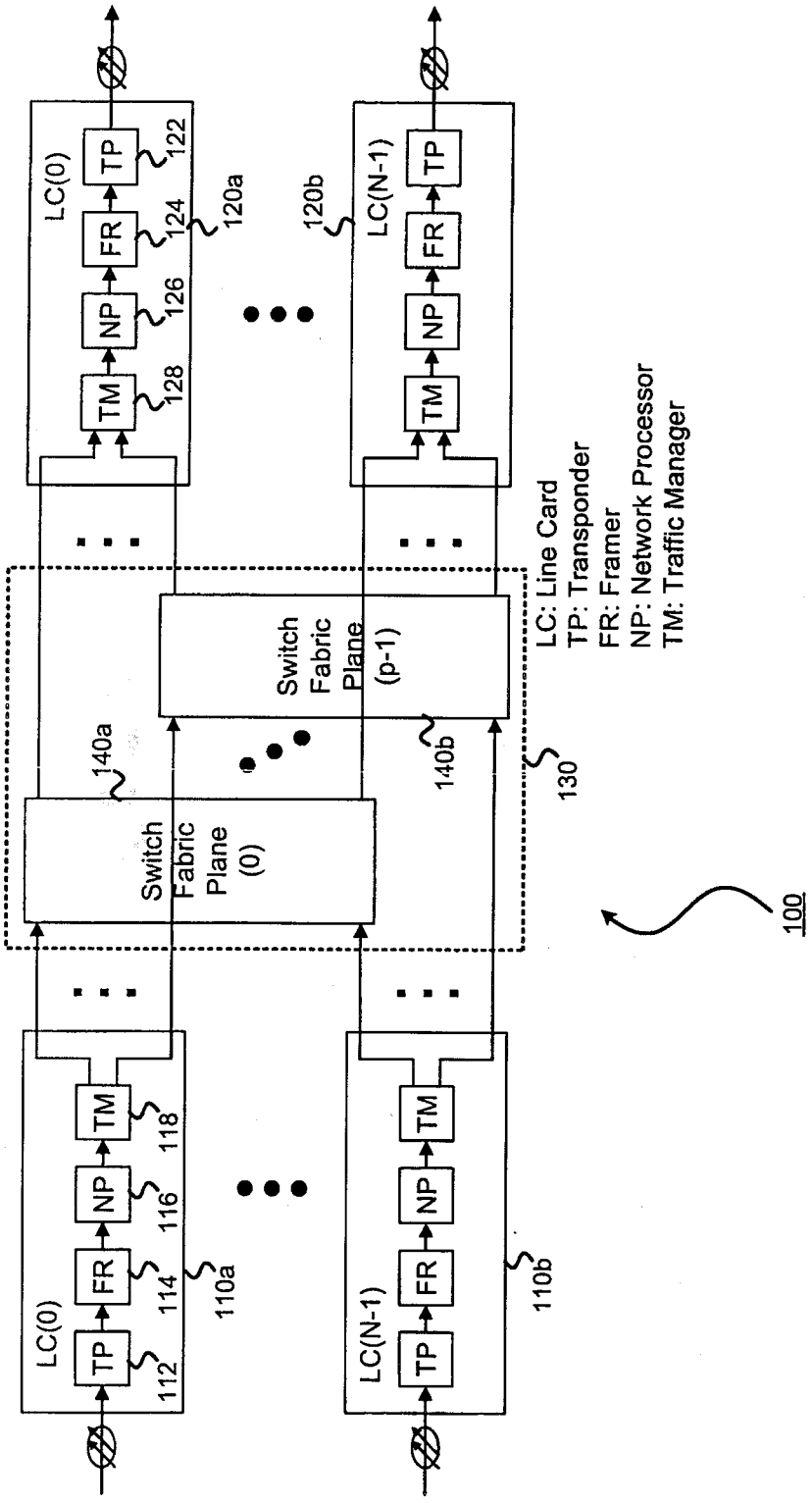


FIGURE 1
(Prior Art)

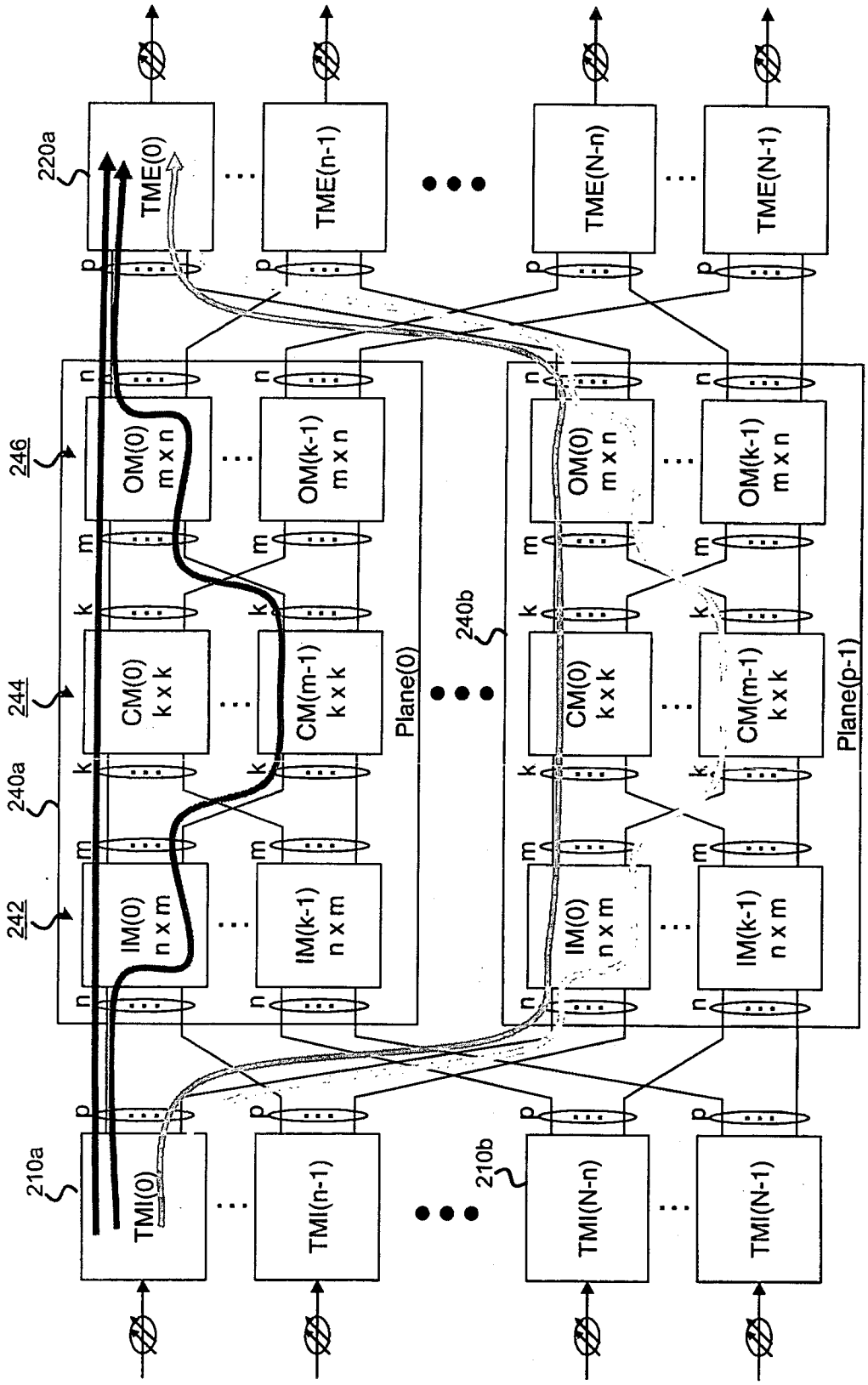


FIGURE 2
(Prior Art)

/Duc Ho/ (06/07/2009)

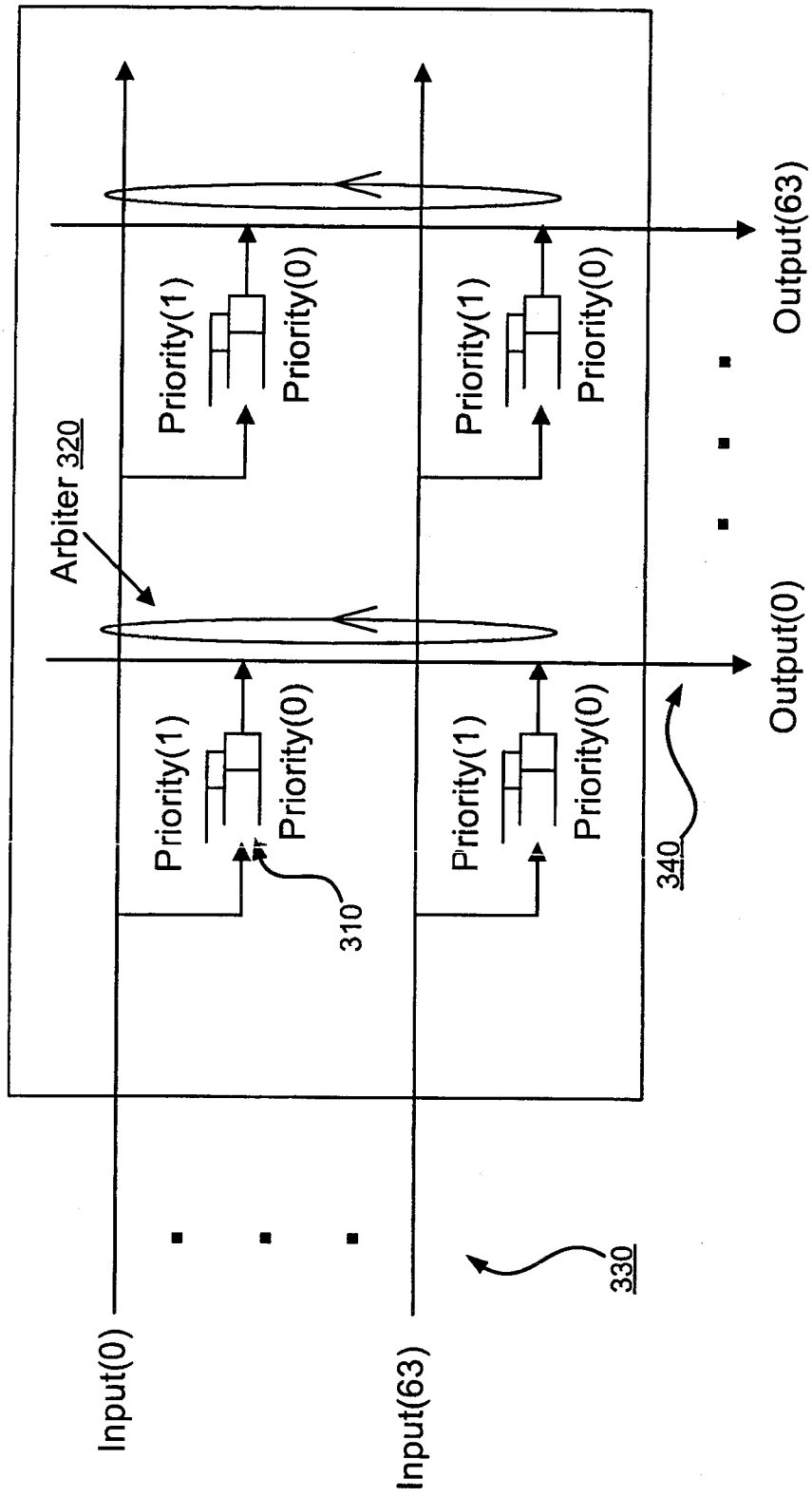


FIGURE 3A
(Prior Art)

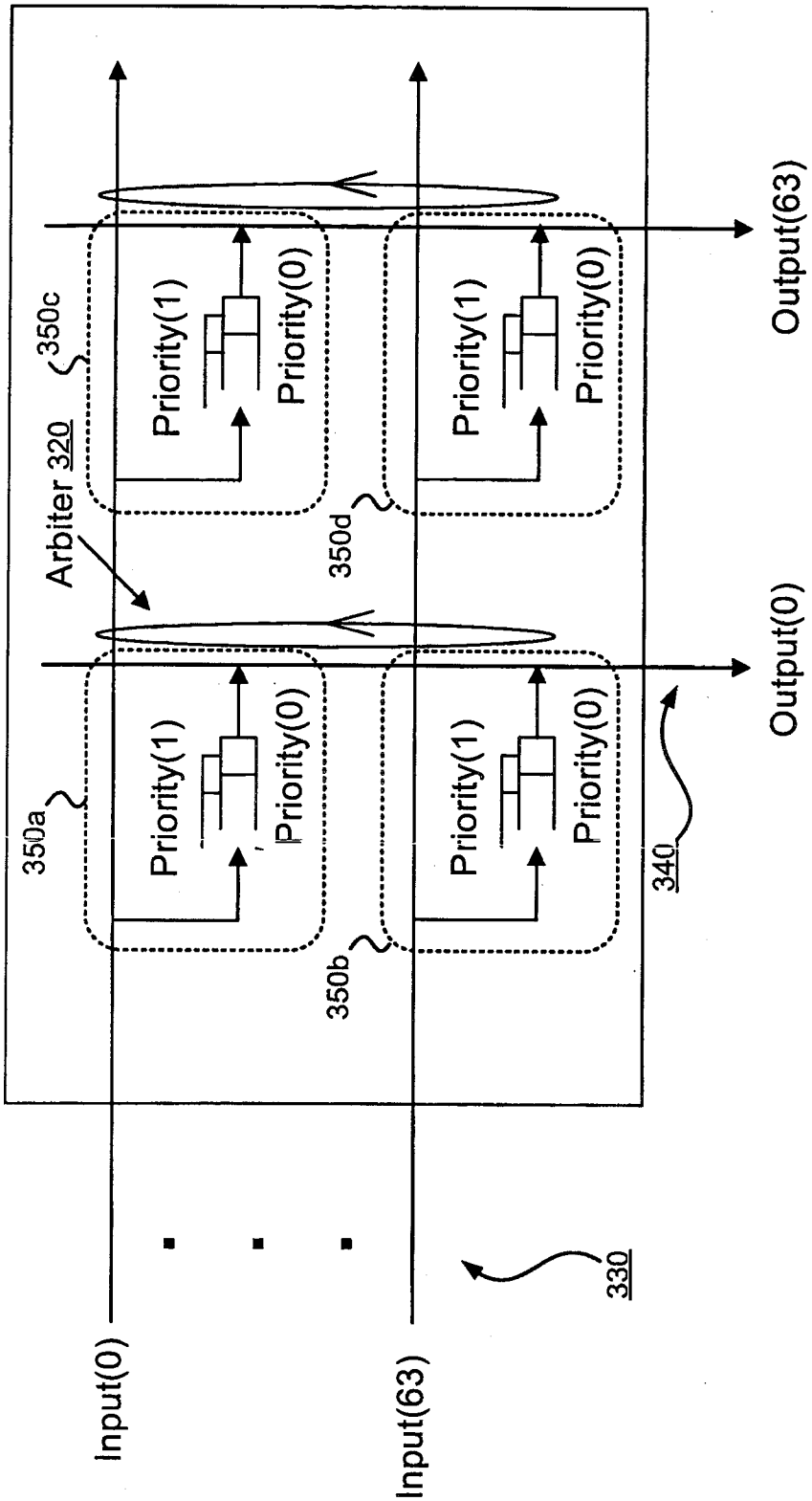


FIGURE 3B
(Prior Art)

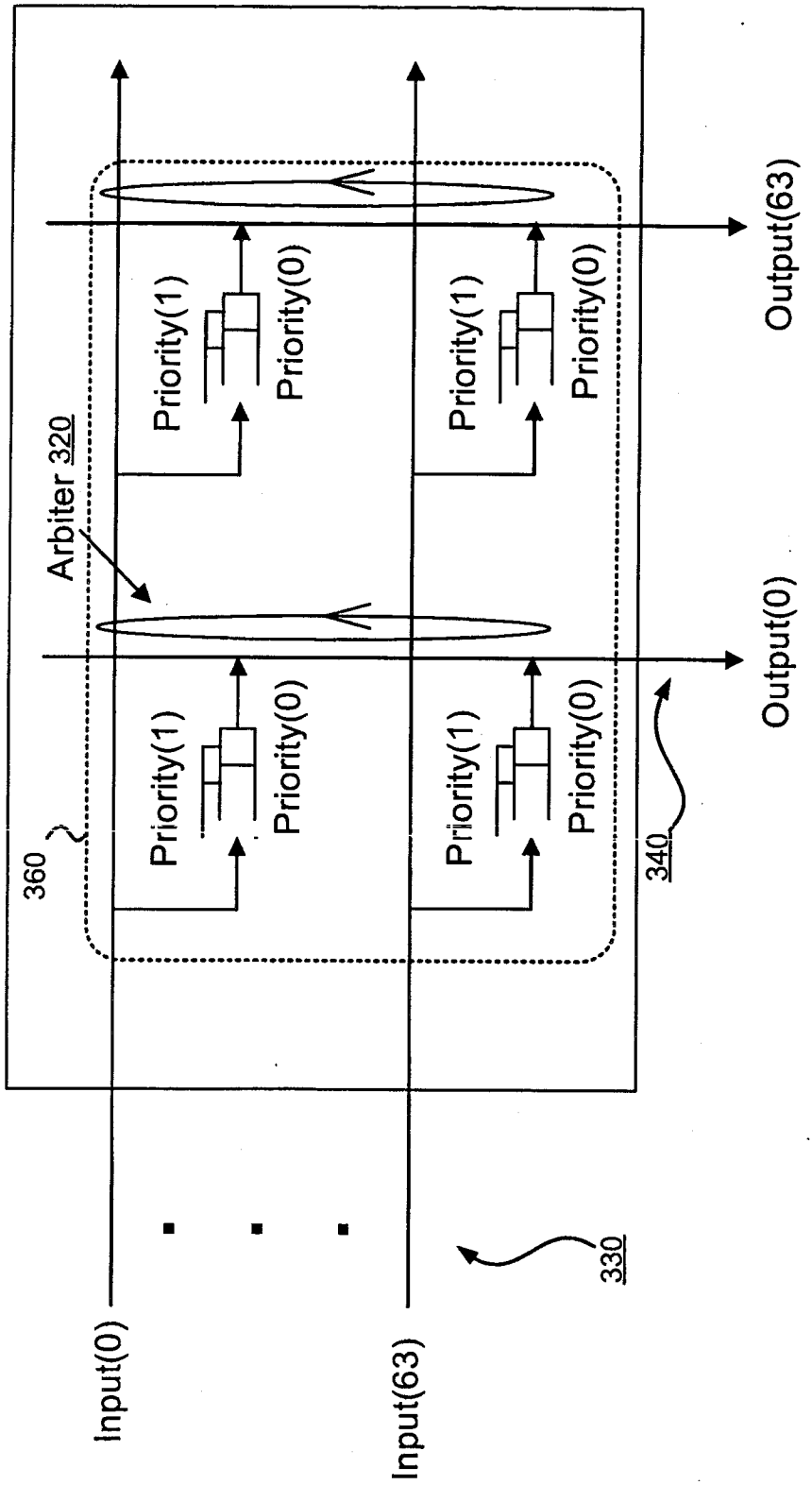


FIGURE 3C
(Prior Art)

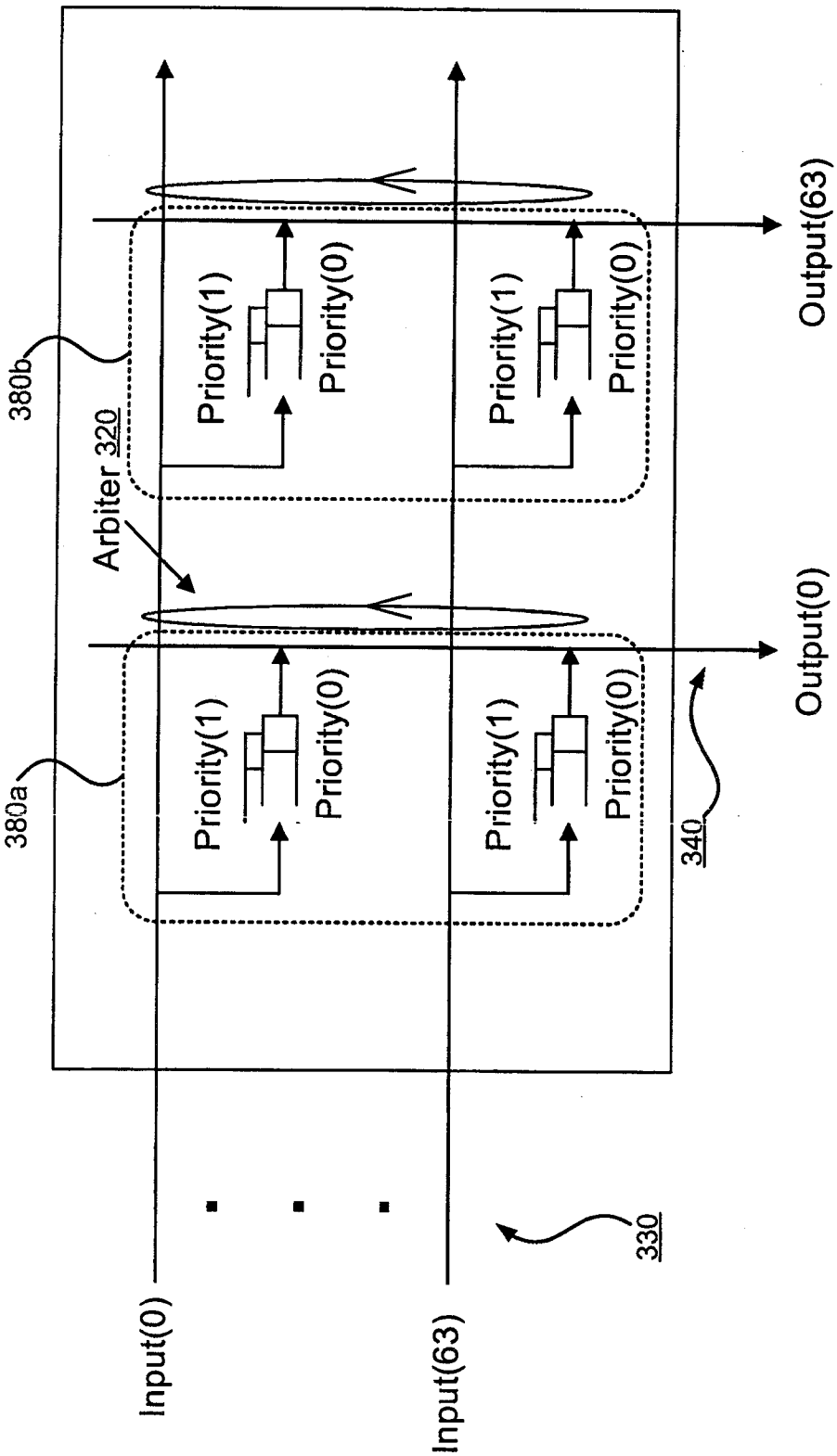


FIGURE 3D
(Prior Art)

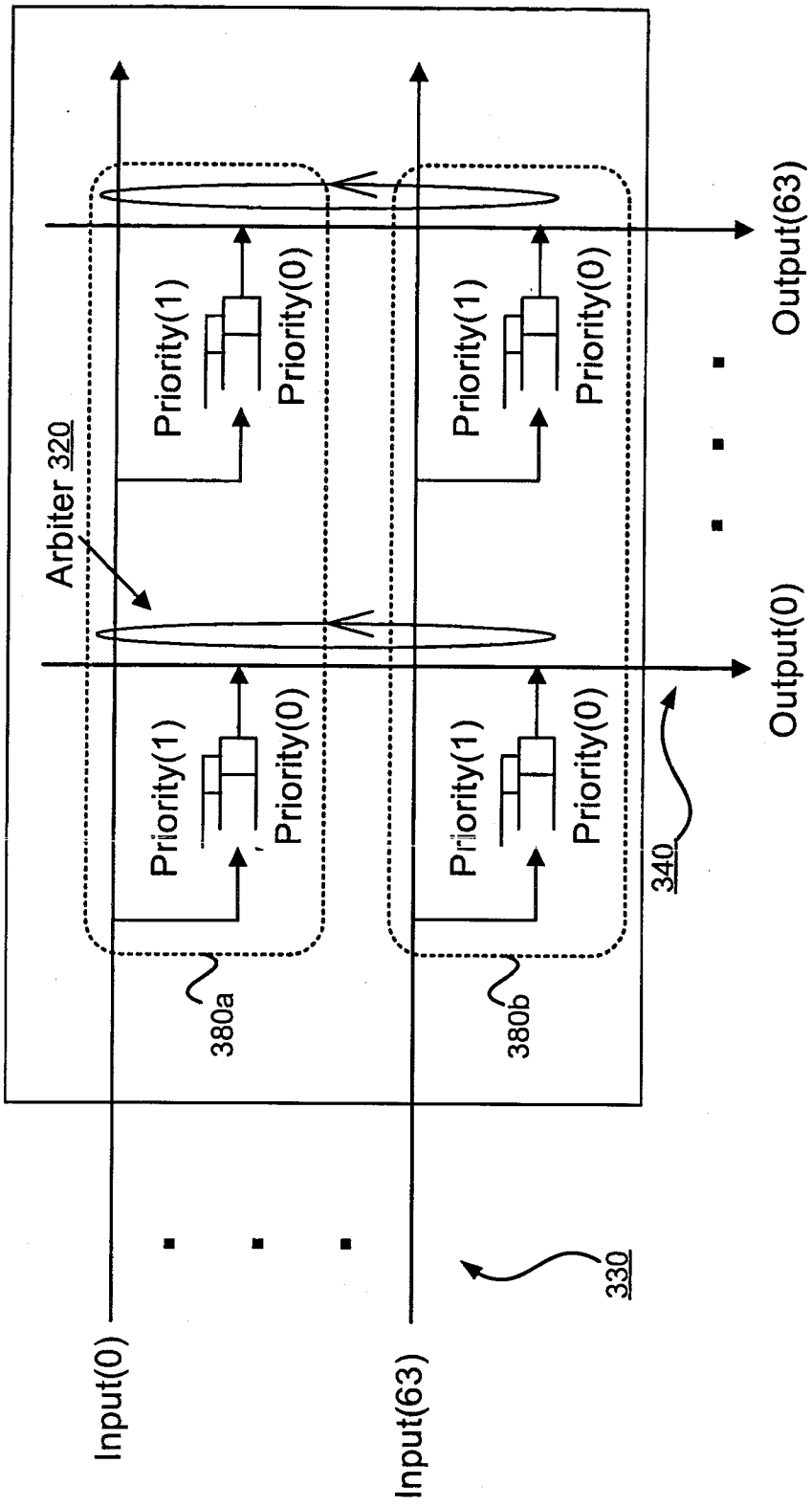


FIGURE 3E
(Prior Art)

/Duc Hò/ (06/07/2009)

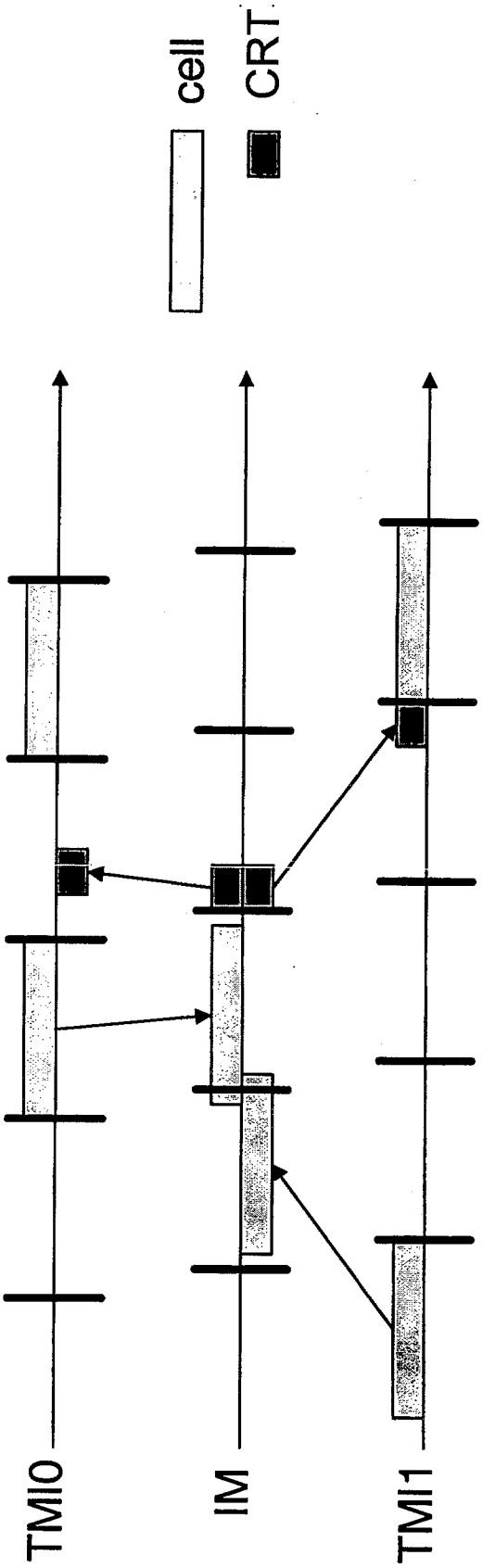


FIGURE 4
(Prior Art)

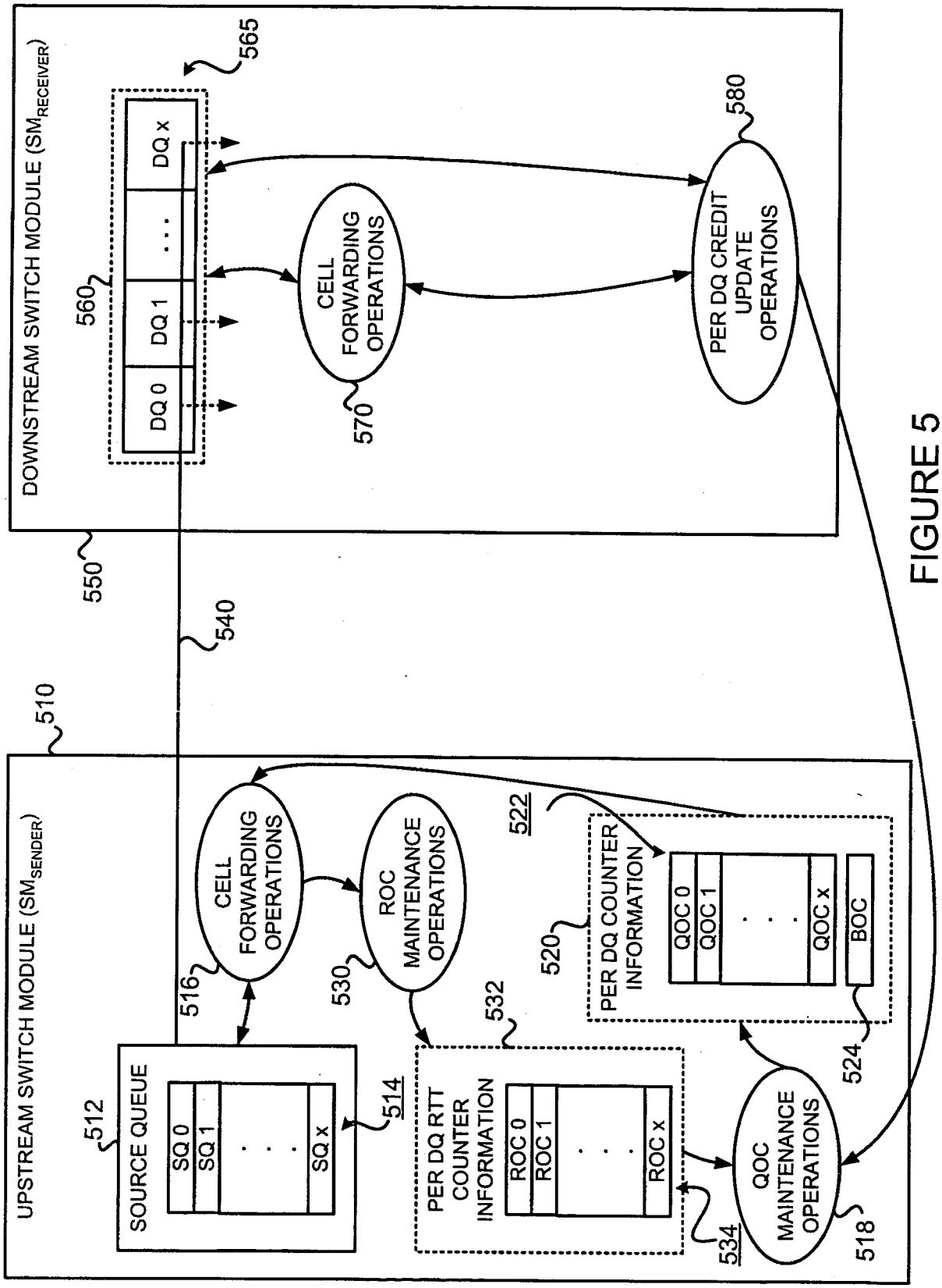
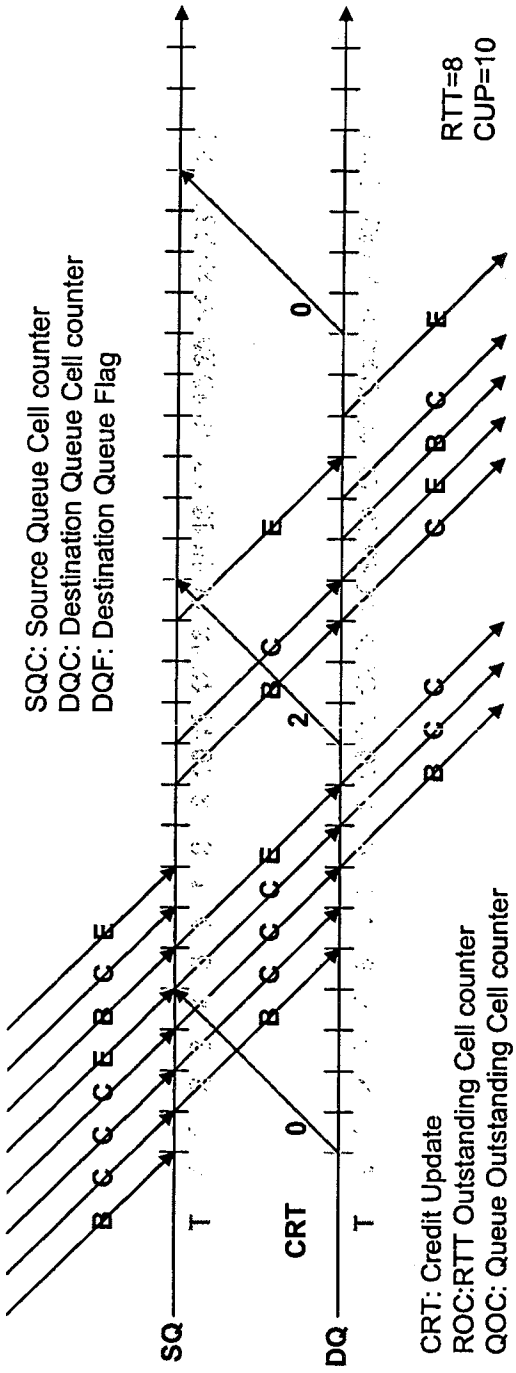

DOWNSTREAM SWITCH MODULE (SM_RECEIVER)
565
560
DQ 0
DQ 1
. . .
DQ x
CELL FORWARDING OPERATIONS
570
580
PER DQ CREDIT UPDATE OPERATIONS
550
540
510
UPSTREAM SWITCH MODULE (SM_SENDER)
CELL FORWARDING OPERATIONS
516
ROC MAINTENANCE OPERATIONS
530
522
PER DQ COUNTER INFORMATION
520
QOC 0
QOC 1
. . .
QOC x
BOC
524
SOURCE QUEUE
512
SQ 0
SQ 1
. . .
SQ x
514
PER DQ RTT COUNTER INFORMATION
532
ROC 0
ROC 1
. . .
ROC x
534
QOC MAINTENANCE OPERATIONS
518

FIGURE 5

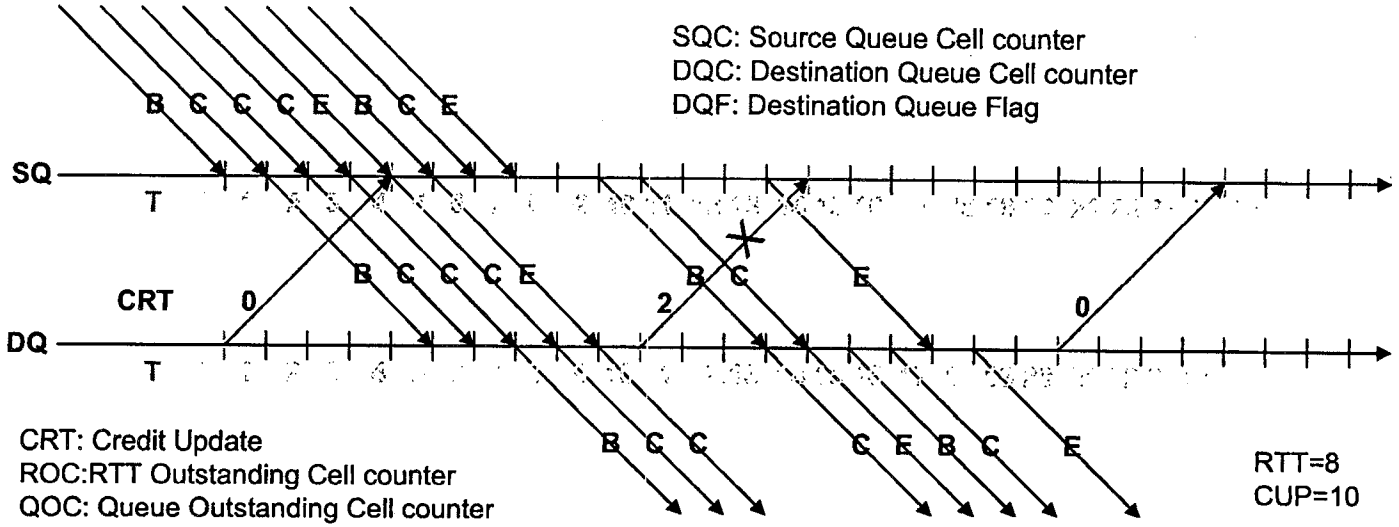
FIGURE 6A



TS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
SQC	0	1	1	1	1	1	1	2	3	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
DQC	0	0	0	0	0	0	1	2	2	2	2	2	2	2	2	2	1	0	1	0	0	0	0	0	0	0
DQF	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
CRT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
ROC	0	0	1	2	3	4	0	0	0	0	1	2	2	2	3	3	0	0	0	0	0	0	0	0	0	0
QOC	0	0	1	2	3	4	5	5	5	5	6	7	7	7	8	5	5	5	5	5	5	5	5	5	5	0

FIGURE 6B

FIGURE 7A



TS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
SQC	0	1	1	1	1	1	1	2	3	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
DQC	0	0	0	0	0	0	1	2	2	2	2	2	2	2	2	2	1	0	1	0	0	0	0	0	0	0
DQF	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
CRT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0	0	0	0	0	0	0	0
ROC	0	0	1	2	3	4	0	0	0	0	1	2	2	2	3	3	0	0	0	0	0	0	0	0	0	0
QOC	0	0	1	2	3	4	5	5	5	5	6	7	7	7	8	8	8	8	8	8	8	8	8	8	8	0

FIGURE 7B

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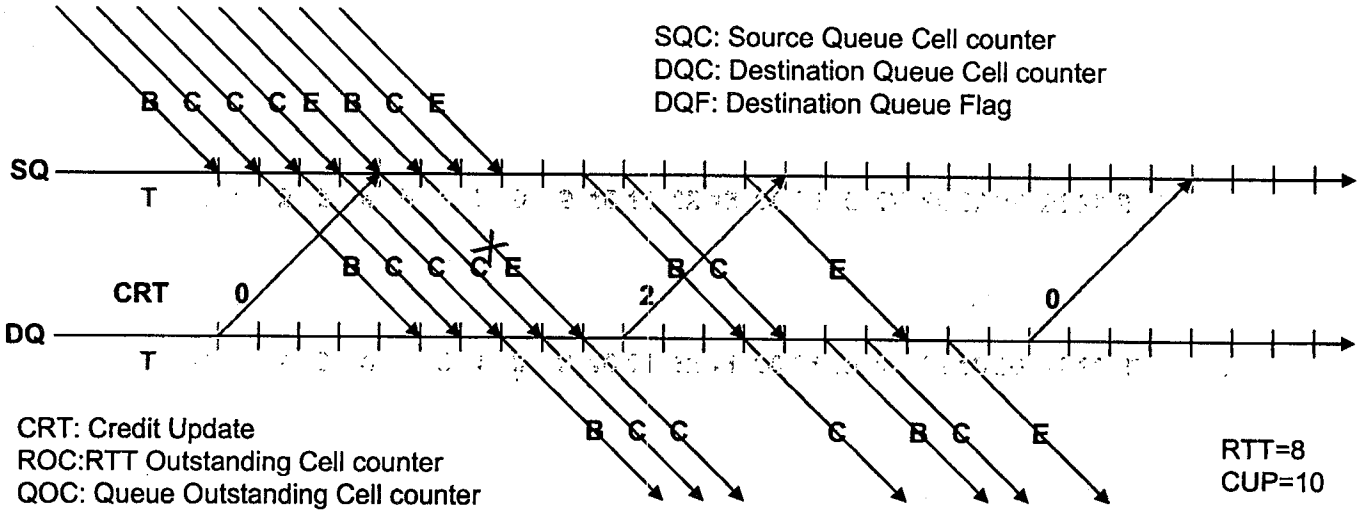
FIGURE 8A

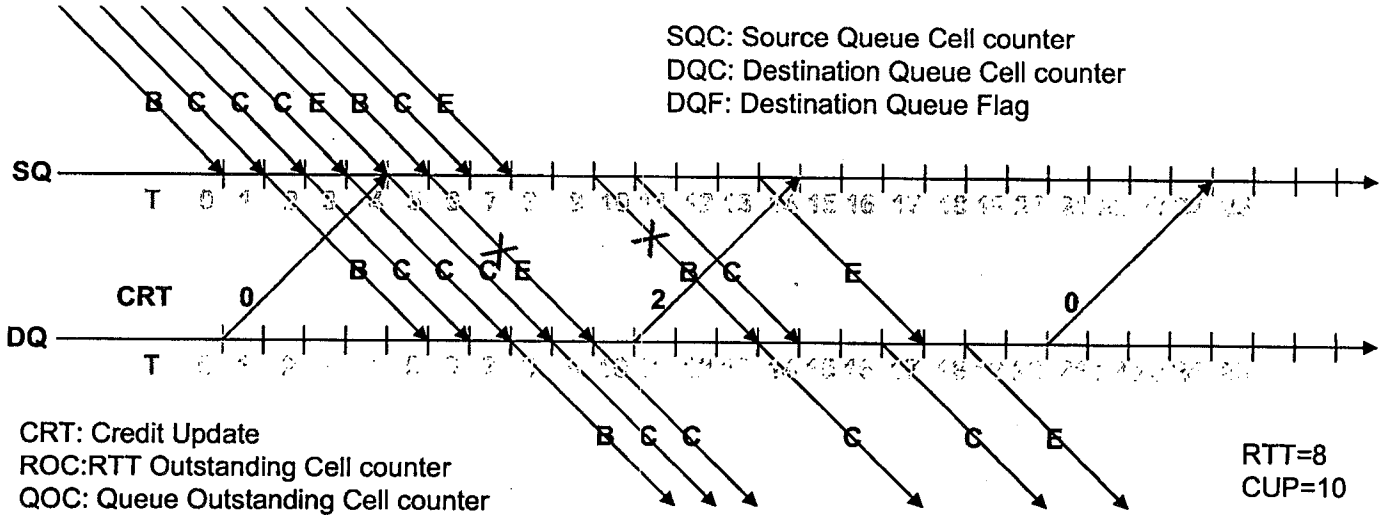


TS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
SQC	0	1	1	1	1	1	1	2	3	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
DQC	0	0	0	0	0	0	1	2	2	2	1	1	1	1	1	2	1	0	1	0	0	0	0	0	0	0
DQF	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
CRT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
ROC	0	0	1	2	3	4	0	0	0	0	1	2	2	2	3	3	0	0	0	0	0	0	0	0	0	0
QOC	0	0	1	2	3	4	5	5	5	5	6	7	7	7	8	4	4	4	4	4	4	4	4	4	4	0

FIGURE 8B

/Duc Ho/ (06/07/2009)

FIGURE 9A



TS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
SQC	0	1	1	1	1	1	1	2	3	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
DQC	0	0	0	0	0	0	1	2	2	2	1	1	1	1	0	1	1	0	1	0	0	0	0	0	0	0
DQF	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
CRT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
ROC	0	0	1	2	3	4	0	0	0	0	1	2	2	2	3	3	0	0	0	0	0	0	0	0	0	0
QOC	0	0	1	2	3	4	5	5	5	5	6	7	7	7	8	4	4	4	4	4	4	4	4	4	4	0

FIGURE 9B

FIGURE 10

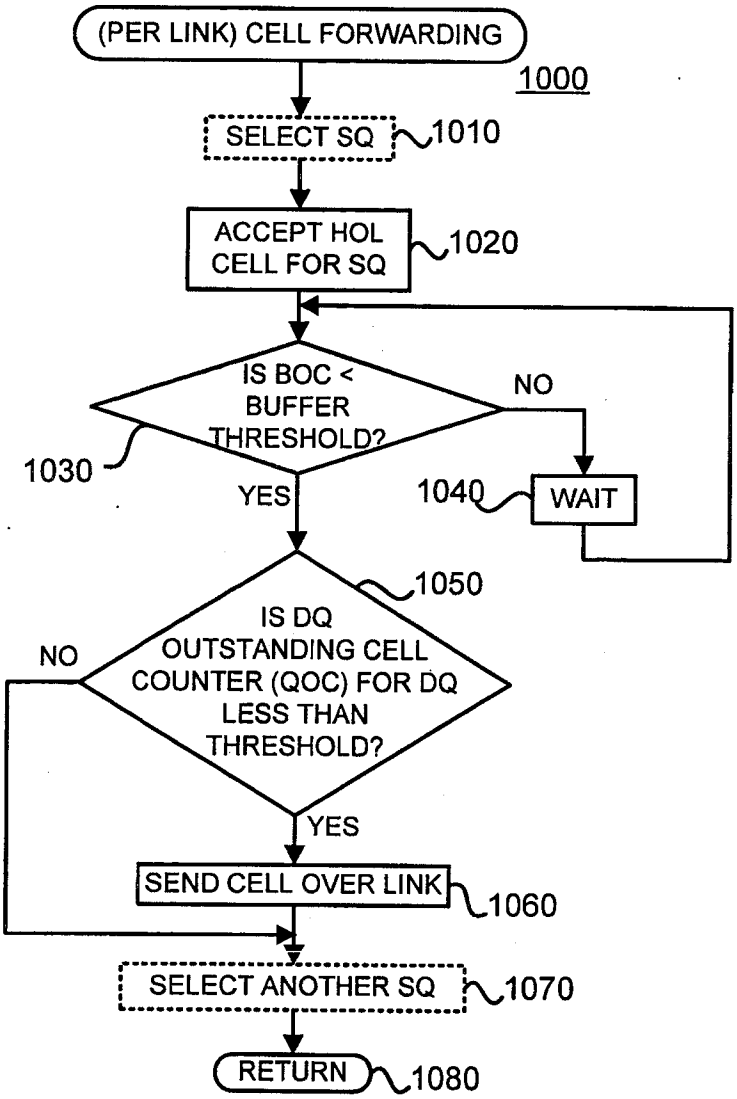
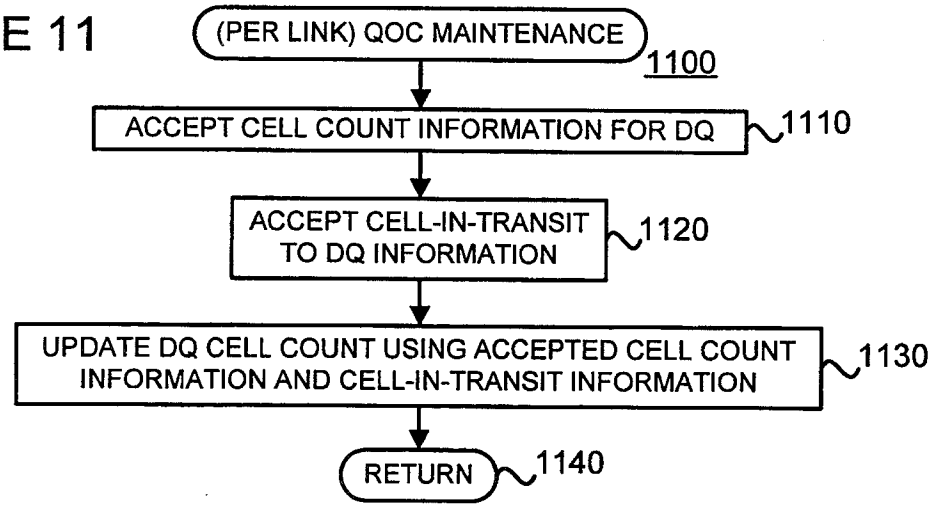


FIGURE 11



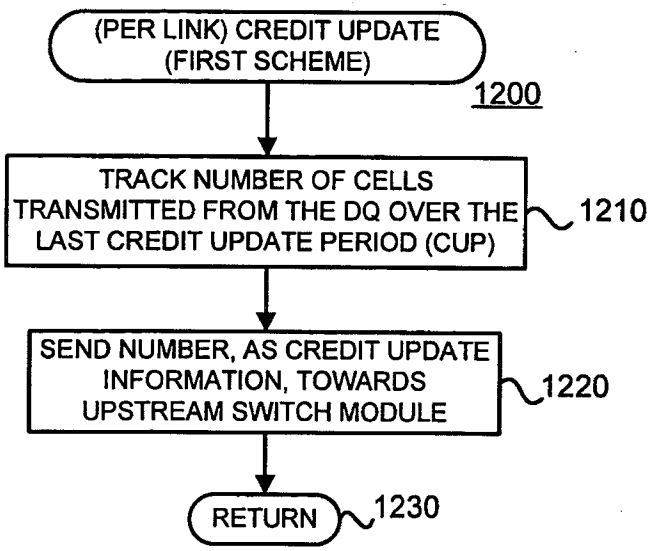


FIGURE 12A

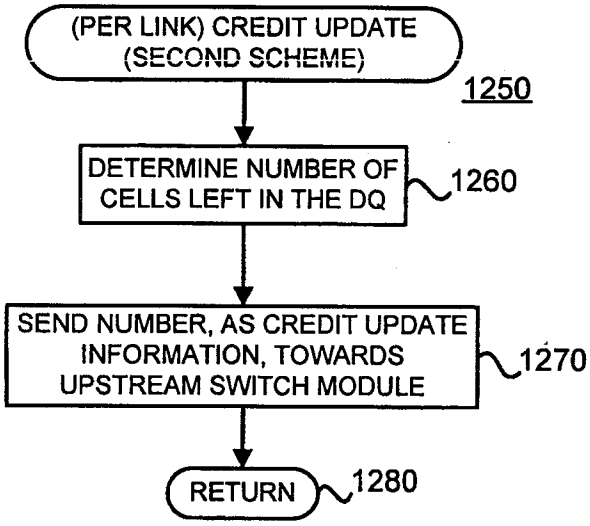


FIGURE 12B

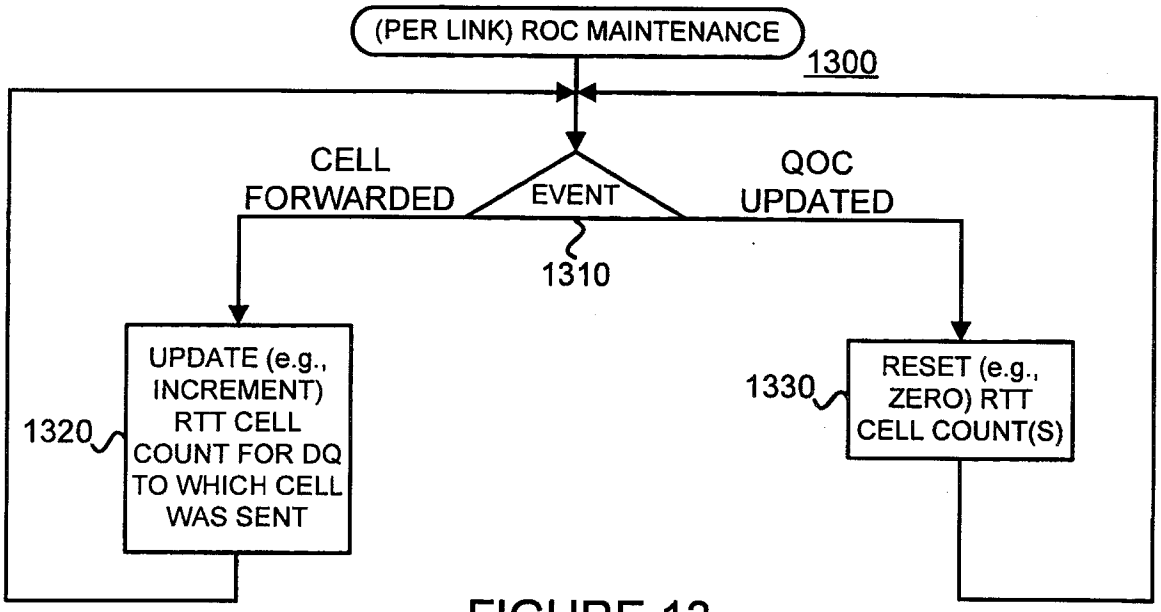

(PER LINK) ROC MAINTENANCE
1300
CELL FORWARDED
EVENT
QOC UPDATED
1310
UPDATE (e.g., INCREMENT) RTT CELL COUNT FOR DQ TO WHICH CELL WAS SENT
1320
RESET (e.g., ZERO) RTT CELL COUNT(S)
1330

FIGURE 13